

Notice of Allowability

Application No.

10/789,333

Examiner

Hong C. Kim

Applicant(s)

LEE ET AL.

Art Unit

2185

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6/7/07.
2. ☒ The allowed claim(s) is/are 35 and 46 (renumbered to 1-2).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Detailed Action

1. Claims 35 and 46 are presented for examination. This office action is in response to the amendment filed on 6/7/07.
2. The terminal disclaimer filed on 6/7/07 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of USP application No. 10/956826 has been reviewed and is accepted. The terminal disclaimer has been recorded.
3. Applicants are reminded of the duty to disclose information under 37 CFR 1.56.
4. Applicants are requested to update the status of the related U.S. patent application accordingly (e.g., U.S. Patent Application Serial No. ###/###,### filled Sept. 07, 1990, now abandoned; ..., now U.S. Patent #,###,### issued Jan. 01, 1994; or This application is a continuation of Serial Number ###/###,###, filed on December 01, 1990, now abandoned; ...etc.). Also applicants are requested to include the status of the related U.S. applications or patents in the CROSS-REFERENCE TO RELATED APPLICATIONS section and in any other corresponding area in the specification, if any.

EXAMINER'S AMENDMENT

5. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided

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by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

6. Authorization for this examiner's amendment was given in a telephone interview with Patrick T. Bever, Attorney for Applicants Reg. No. 33,834, August 15, 2007.

7. Application has been amended as follows:

In the claim:

Amend claims 35 and 46 as follows:

As to claim 35 in lines 4 and 7, add --flash-- before "memory controller" (two occurrences, in lines 4 and 7). In lines 9-10, change "the configuration" to --a configuration--.

As to claim 46 in lines 6 and 9, add --flash-- before "memory controller" (two occurrences, in lines 6 and 9). In lines 11-12, change "the configuration" to --a configuration--.

REASONS for ALLOWANCE

8. The following is an Examiner's statement of reasons for the indication of allowable subject matter: renumbered claims 1-2 are allowable over the prior art of record because an update of a search previously made does not detect a method and software for managing flash memory as described in the specification and together with combination of other claimed element as set forth in the claims. Also the reasons for

allowance of the claims over the prior art of record is believed to be clear from the prosecution records taken as a whole. Therefore, claims 1-2 are allowable over the prior art of records.

9. Any comments considered necessary by applicant must be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably **accompany** the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons For Allowance."

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hong C Kim whose telephone number is (571) 272-4181. The examiner can normally be reached on M-F 9:00 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sanjiv Shah can be reached on (571) 272-4098. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 whose telephone number is (571) 272-2100.

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11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

12. **Any response to this action should be mailed to:**

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

or faxed to TC-2100:
(571)-273-8300

Hand-delivered responses should be brought to the Customer Service Window (Randolph Building, 401 Dulany Street, Alexandria, VA 22314).

HK
Primary Patent Examiner
August 15, 2007

A handwritten signature in black ink, appearing to be 'H. L.' or similar, written over a horizontal line.

AMENDMENTS TO THE CLAIMS

1-34 (canceled)

35. (currently amended) ~~The method of claim 33~~ A method for managing flash memory, the method comprising:

(a) receiving at least one request from a host system utilizing a processor within a ^{flash} memory controller;

(b) determining which sectors of the flash memory are available for programming, reprogramming, or reading utilizing the processor and an index within the ^{flash} memory controller, wherein the host system interacts with the flash memory controller without the host system having information regarding ^a the configuration of the flash memory; and

(c) recycling obsolete sectors so that they are available for reprogramming,

wherein the recycling step (c) comprises:

(c1) block copying valid data from sectors of a first block to sectors of a second block, wherein the sectors of the first block become obsolete sectors; and

(c2) erasing the obsolete sectors of the first block so that they are available for reprogramming.

36-45 (canceled)

46. (currently amended) ~~The computer readable medium of claim 44~~ A computer readable medium containing program instructions for managing flash memory, the program instructions which when executed by a computer system cause the computer system to execute a method comprising:

(a) receiving at least one request from a host system utilizing a processor within a ^{flash} memory controller; and

(b) determining which sectors of the flash memory are available for programming, reprogramming, or reading utilizing the processor and an index within the ^{flash} memory controller, wherein the host system interacts with the flash memory controller without the host system having information regarding the configuration of the flash memory; and

(c) program instructions for recycling obsolete sectors so that they are available for reprogramming,

wherein the recycling step (c) comprises program instructions for:

(c1) block copying valid data from sectors of a first block to sectors of a second block, wherein the sectors of the first block become obsolete sectors; and

(c2) erasing the obsolete sectors of the first block so that they are available for reprogramming.

47-52 (canceled)